

REMARKS

This is a full and complete response to the Office action dated April 11, 2007.

All comments and remarks of record are herein incorporated by reference. Applicants respectfully traverse these rejections and all comments made in the Office action. Nevertheless, in an effort to expedite prosecution, Applicants provide the following remarks regarding the cited references.

DISPOSITION OF CLAIMS

Claims 14-17, 19-21, and 23-25 are pending in the application. Claims 16-17, 19, 21, 23, and 25 have been rewritten in independent form. No new matter is added.

ALLOWABLE SUBJECT MATTER

The Examiner indicated that claims 16-17, 19-21, and 23-25 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicants have amended claims 16-17 and 19 to include the subject matter of claim 14, and also amended claims 21, 23, and 25 to include the subject matter of claim 15. Furthermore claim 20 depends from claim 19 and claim 24 depends from claim 21. Therefore Applicants respectfully assert that claims 16-17, 19-21, and 23-25 are in allowable condition.

REJECTION UNDER 35 USC §102

Claims 14 and 15 stand rejected under 35 USC §102(b) as being anticipated by **Hisakazu**, JP 2000-327387. Applicants respectfully traverse this rejection.

Anticipation under §102 can be found only if a reference shows exactly what is claimed. *See Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (CAFC 1985). The identical invention must be shown in as complete detail as is contained in the patent claim. *See Richardson v. Suzuki Motor co.*, 868 F.2d 1226, 9 USPQ2d 1913 (CAFC 1989).

The Examiner alleges that **Hisakazu** discloses a cement admixture compound (C) in which formaldehyde addition condensation is possible and “are a kind or two sorts or more” [*sic*] of compounds chosen from the group of a melamine or its derivative, a phenol or its derivative, a urea or its derivative, aminobenzene or its derivative, alkylamino benzenesulfonic acid or its derivative (claim 4), and therefore reads on the structure of component A in the composition of instant claims.

The Examiner also alleges as to component B, that **Hisakazu** discloses polyoxyalkylenemonoamine, which is a solvent. The Examiner concludes that the admixture therefore discloses present claims 14 and 15 and would fulfill the utilities of a treatment for metal surfaces.

Applicants respectfully disagree.

Applicants respectfully assert that **Hisakazu** discloses a cement mixture showing high flowability, having high flow survival rate and excellent “in a day strength” including a formaldehyde addition condensation product of (A) polyoxyalkylenemonoamine, (B) an alkyxylated melamine, (C) a compound capable of performing formaldehyde addition with (B) and (D) a sulfone group-forming compound. See **Hisakazu**, abstract. According to claim 4 of **Hisakazu**, compound (C) is a formaldehyde addition condensation product of formaldehyde, and “a kind or two sorts” or more of compounds chosen from the group of melamine or its derivative, a phenyl or its derivative, a urea or its derivative, an aminobenzene sulfonic acid, its derivative, alkyl amino benzene sulfonic acid, or its derivative.

Furthermore, according to paragraph 0033 of **Hisakazu**, Cymel 350 (which is a fully alkylated melamine), melamines, phenyls, ureas and formalin (which is an aqueous solution of formaldehyde) are mixed and reacted. Subsequently, sodium bisulfate is added and the reaction mixture is further reacted. In this example disclosed in paragraph 0033, sodium bisulfite is the sulfone group-forming agent (D). According to paragraph 0015 of **Hisakazu**, compound (D) which generates a sulfone radical, can be well-known sulfonation agents, such as a sodium sulphide, sodium bisulfite, sodium pyrhosulfite, a sulphur dioxide, can be used. According to paragraph 0016, a sulfon-methyl group is introduced into the melamine or phenol by a “well known approach.” That is, after

carrying out addition condensation of the formaldehyde to a melamine or phenol obtaining a methylol melamine or methylol phenol, it is possible to introduce sulfone groups by adding a sulfonation agent and changing for a hydroxyl group.

According to paragraph 0016 of **Hisakazu**, since the possibility that the methylol radical for two moles will be used for addition copolycondensation is high, installation of a sulfomethyl group “is possible for max” [*sic*] on the remaining methylol radicals for four moles. The admixture according to **Hisakazu** therefore comprises a polycondensation product, comprising formaldehyde, melamine, phenyls, ureas and polyoxyalkylenemonoamines. Applicants respectfully assert that after preparation of this condensation product, a sulfone group-forming compound (D) is introduced which is capable of changing methylol groups into methylsulfone groups. Applicants respectfully assert, therefore, that **Hisakazu** does not disclose that sulfone groups are created that are directly bound to the aromatic rings in the polymer chain.

In contrast to the disclosure of **Hisakazu**, in present claims 14 and 15, compositions are recited therein comprising at least one polymer as component A, composed of the structural elements (1), (2), (4), and (5). In structural element (4), sulfone groups, or sulfone groups which are neutralized by M, are bound directly to the aromatic ring in the main chain. The at least one polymer as component A is prepared by polycondensation, wherein as component (2) at least one aromatic compound which carries at least one OM-group or one sulfo group, -SO₂OM, or both groups, as component Ab.

Thus, according to claims 14 and 15 of the present invention, compositions are recited comprising at least one polymer as component A, which comprises sulfone group containing aromatic moieties in which the sulfur atom of the sulfone group is directly attached to the aromatic ring in the main chain. On the other hand, in **Hisakazu**, polycondensation products are disclosed in which sulfone groups are attached via a CH₂ group to the aromatic rings in the main chain.

Moreover, the polymers according to **Hisakazu** are prepared in a totally different way compared to the at least one polymer as component (A) recited in claims 14 and 15.

According to **Hisakazu**, the polycondensation product without sulfone groups is prepared in a first step, and sulfonation with common sulfonating agents is conducted in a second step. This method gives rise to polymers in which sulfone groups are bound to the aromatic rings via CH₂-groups. In contrast to this, the polymer that is present in the compositions recited in claims 14 and 15 of the present application, are prepared by direct polycondensation reaction of monomers comprising sulfone-groups directly attached to the aromatic rings.

Hisakazu on the other hand does not disclose polycondensation products of the aforementioned monomers where such monomers already comprise sulfone groups directly attached to the aromatic ring, and thus are already present from the beginning of the polycondensation reaction.

The advantage of the method of preparation of the polymer according to present claims 14 and 15 is that a very specific amount of sulfone groups are present in the polymer. According to **Hisakazu** however, Applicants respectfully assert that it is not possible to control the amount and location of the methylene sulfone groups present in the polymer. Therefore, the compositions according to claims 14 and 15 of the present application are not anticipated by **Hisakazu** because this reference does not disclose polymers having sulfone groups directly attached to the aromatic rings. Therefore, Applicants respectfully request that the above 35 USC §102 rejection be withdrawn.

Furthermore, Applicants respectfully assert that no prima facie case of obviousness could be established based on **Hisakazu** as well. One of ordinary skill in the art would have no motivation to modify the **Hisakazu** reference to read on the present claims 14 and 15. As discussed above, **Hisakazu** does not disclose or suggest to one of ordinary skill in the art that sulfone groups should be directly connected to the aromatic rings in the polymer main chain. Additionally, it is not disclosed or suggested that polymers should be prepared by direct polycondensation reaction of the claimed monomers.

Moreover, a person of ordinary skill in the art would not be motivated to modify **Hisakazu** because the reference is directed to a completely different technical field of cement mixing. The advantages disclosed by **Hisakazu** for the admixture disclosed

therein of high flowability, high flow survival rate and excellent in a day strength of the cement admixtures comprising the polymer according to **Hisakazu** provide no motivation for one of skill in the art for obtaining compositions which are advantageously suited for use in compositions for the treatment of metal surfaces. Thus no prima facie case of obviousness can be established.

Therefore, Applicants respectfully assert that claims 14 and 15 are in allowable condition.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner is invited to directly contact the undersigned by phone to further the discussion.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437.

Conclusion

Having addressed all issues set out in the Office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,
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